NASA GRC ACAST Workshop: Session C: Multi-Function Multi-Mode Avionics (MMDA) - Report on RTCA SC-200 Integrated Modular Avionics

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- RTCA Special Committee 200, Integrated Modular Avionics, was chartered in early 2002 to develop a guidance document for the design, development and certification of integrated modular avionics

- Also EUROCAE Working Group 60, with identical interests was chartered

- SC-200 and WG-60 are cooperating to develop a single guidance document for use in the U.S., Canada, and Europe by the middle of 2005

- Document will be of great value to NASA Glenn in the MMDA subproject

- Remaining meetings scheduled:
  - September 14-17, RTCA, Washington
  - November 16-19, Europe (Amsterdam?)
  - February 8-11, 2005, Europe (Final draft ready for review and comment)
  - May 10-13, 2005, RTCA, Washington (Work off comments on final draft)

- Meetings announced in Federal Register

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- Integrated modular avionics: A shared set of flexible, reusable and inter-operable hardware and software resources that create a platform that provides services, designed and verified to a defined set of safety and performance requirements, to host applications performing aircraft functions

- "Acceptance" of modules and applications may enable them to be used in other projects without repeating acceptance effort

- Six tasks identified to achieve certification:

  Task 1 – Module Acceptance
  Task 2 – Application Acceptance
  Task 3 – IMA System-Level Acceptance
  Task 4 – Aircraft-Level Integration (Including V & V)

  Task 5 – Change
  Task 6 – Reuse

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- Eight integral processes:

  - Safety Assessment
  - Design Assurance
  - Integration Considerations
  - Validation
  - Verification
  - Configuration Management
  - Quality Assurance
  - Certification Liaison

- Master Minimum Equipment List (MMEL) is a particularly thorny problem due to multifunction nature of an IMA system